Zurich-Basel Plant Science Center

Chlorophyll Fluorescence – Principles and Applications

Lecturer: **Klára Panzarová, Photon Systems Instruments (PSI)**
Diana Santelia, University of Zurich

Location: **Institute of Plant Biology, University of Zürich, P1-41 (Start) and P2-38 (lab)**
Dates: **February 2 – 4, 2015**
Credit Points: **1 ECTS**

Course Description
Chlorophyll fluorescence analysis is one of the most powerful and widely used techniques by plant physiologists and ecophysiologists. Chlorophyll fluorescence is used for rapid non-invasive measurement of photosystem II activity. PSII activity is very sensitive to range of biotic and abiotic factors and therefore chlorophyll fluorescence technique is used as rapid indicator of photosynthetic performance of plants in different developmental stages and/or in response to changing environment. The course will consist of lectures related to the theoretical background of this technique and practicals where different measuring protocols will be used to illustrate the types of information that fluorescence can provide. We will use both imaging and non-imaging tools for analysis of chlorophyll fluorescence kinetics. The analysed samples will be from cyanobacteria, algae and plants.

Learning Objectives
This course aims to provide an introduction to the methodology and applications of chlorophyll fluorescence. Upon completion of the course, the students should have good understanding of the principles of the method, should be able to choose appropriate type of measurement and type of fluorometer for solving specific questions.

Prior Knowledge:
Several key publications will be provided to the students prior of the course for brief initial overview of the chlorophyll fluorescence topic. Background knowledge about photosynthesis is the minimal requirement.

Number of Participants:
8-10

Individual Performance and Assessment:
At the end of the course the students will be asked to prepare short report and present how they can use Chl fluorescence in their research. They will briefly present the background, problem, design and the experiments that could be performed.